

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-029871**Date Inspected:** 26-Jul-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Jesus Cayabyab, Bernie Docena**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

Caltrans Quality Assurance Inspector (QA) Joe Adame arrived at the American Bridge/Fluor (ABF) job site between the times noted above in order to monitor ABF Quality Control functions and the in work being performed by ABF personnel. The following items were observed:

**In Process Visual Inspection**

RWR201306-002

ESW E-043 Location "Q"-Face B

The QA Inspector observed, at random intervals, ABF/JV welder Don Plumb (WID-0891) performing grinding excavation of Electroslag Weld (ESW) "Q" face B, to verify indications observed during Ultrasonic Testing. After grinding to bright metal the QC Inspector performed MT testing of the excavation to inspect for the indications at each hold point. The QA Inspector also performed MT inspection throughout the process and the final excavation.

Details of the repair excavation are as follows:

Y=Originals -5820mm, 5850mm= Excavated 5800mm~5900mm

Weld excavated at 6mm-Transverse indication.

Weld excavated at 10mm-Transverse indication.

Weld excavated at 12mm-Transverse indication, planar indication.

Weld excavated at 15mm- Transverse indication, planar indication.

Weld excavated at 18mm- Planar indication.

Weld excavated at 20mm-No indication observed.

Excavation -L= 90mm, W= 20mm, D= 15mm

After the final excavation, the QC Inspector stated the excavation appears to be free of discontinuities and he

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would complete ABF daily inspection report and magnetic particle testing report to detail the findings. See TL-6028 for additional details on items inspected.

### In Process Visual Inspection

RWR201305-009

ESW W-043, Location "V"-Face B

The QA Inspector observed, at random intervals, ABF/JV welder Mike Jimenez (WID-4671) performing weld repairs of the repair excavation on Electroslag Weld (ESW) "V", at face B locations noted as:

Y= 6200~7000mm

L= 800mm

W= 80mm

D= 70mm

The welder was observed preheating the weld to over 300° Fahrenheit prior to welding using the Miller ProHeat 35 with heat induction blankets. The welder was using 4.0mm diameter electrode (E7018-MH4-R) per ABF Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair Rev.3 for Shield Metal Arc Welding (SMAW). The welding parameters were verified by QC Inspector Bernie Docena throughout the day and appeared to be in compliance with the WPS noted above.

### Investigative excavation

ESW E-045,"F"-Face A:

RWR201306-002

The QA Inspector was later present to observe ABF welder Kit Lai (WID-2953) performing exploratory excavation of ESW "F" Face A @ Y-8790mm, 8960mm to verify indications observed during Ultrasonic Testing pulse/echo & pitch/catch. Mr. Lai was assisted by ABF Welder apprentice Simon Ma who performed the grinding on the excavation. ABF QC Inspector Jesse Cayayab stated that Mr. Ma will excavate every 3mm deep and allow QC/QA to inspect the excavation. Location of the repair is as follows:

Weld excavated at 5mm-No indication

Weld excavated at 8mm-No indication

Excavation Length Y=8680mm~9090mm (Excavation work in progress to be continued on the next work shift)

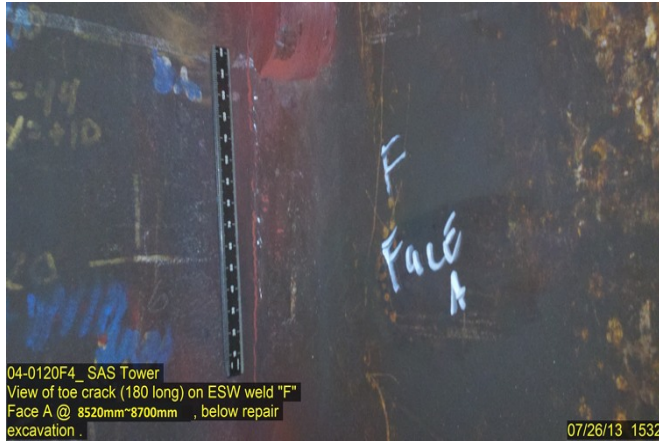
After grinding to bright metal the QC Inspector performed MT testing of the excavation to inspect for planar indications at each hold point. After initial MT, The QC Inspector and QA Inspector noted that there was a linear longitudinal at the bottom of the excavation that ran for approx. 180mm long. The indication appeared to be a toe crack on the surface of the ESW weld @ 8520mm~8700mm. Mr. Cayabyab stated that he would document the info for the toe crack and pass along to ABF. The QA Inspector also informed SMR Aaron Prchlik of the excavation. See TL-6028 for additional details on items inspected.

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## Summary of Conversations:

Only general conversations with ABF/JV QC NDT personnel relevant to work and testing performed during this shift.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Adame,Joe	Quality Assurance Inspector
<b>Reviewed By:</b>	Mertz,Robert	QA Reviewer

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